

## CLAIMS

1. A composite body (1) for absorbing an electromagnetic wave, formed by injection-molding a thermoplastic resin blended with 20-60% by volume of soft magnetic material powder, comprising a unit cell having a bore (2) extending from a top face to a bottom face (3),

a portion of said bore (2) located more adjacently to said bottom face (3) than to said top face having a smaller cross-sectional area than said bore (2) at said top face, and

a height of said unit cell from the bottom face (3) to said top face being at least 1.2 times and at most 10 times as large as the maximum width of said bore (2) at the top face of said unit cell.

2. The composite body for absorbing an electromagnetic wave according to claim 1, wherein a concave portion (4a) is provided around said bore (2) to extend from the bottom face (3) of said unit cell to the top face of said unit cell.

3. The composite body for absorbing an electromagnetic wave according to claim 2, wherein

said concave portion (4a) surrounds said bore (2), and forms a cylindrical portion (5) surrounding said bore (2) on a side of the bottom face (3) of said unit cell.

4. The composite body for absorbing an electromagnetic wave according to claim 3, comprising a rib (6) connecting said cylindrical portions (5).

5. The composite body for absorbing an electromagnetic wave according to claim 1, wherein said thermoplastic resin contains an olefin resin.

6. The composite body for absorbing an electromagnetic wave according to claim 1, wherein said thermoplastic resin contains a polyamide resin.

5 7. The composite body for absorbing an electromagnetic wave according to claim 1, wherein said soft magnetic material powder has a scale-like shape, and has an aspect ratio of 3-20.

10 8. The composite body for absorbing an electromagnetic wave according to claim 1, wherein said soft magnetic material powder has a mean particle diameter converted to spherical diameter of 5-50  $\mu\text{m}$ .

15 9. A composite body (1) for absorbing an electromagnetic wave, formed by injection-molding a thermoplastic resin blended with 20-60% by volume of soft magnetic material powder, having a bore (2) extending from a top face to a bottom face (3),

a portion of said bore (2) located more adjacently to said bottom face (3) than to the top face having a smaller cross-sectional area than said bore (2) at said top face, and convex and concave portions (12, 13) being provided at said top face.

20 10. The composite body for absorbing an electromagnetic wave according to claim 9, having a wall portion (4) surrounding said bore (2), wherein

the convex portion (12) is provided at a top face of an intersection of said wall portions (4), and

25 the concave portion (13) is provided at a top face of said wall portion located between said intersections.

11. A method of manufacturing a composite body for absorbing an electromagnetic wave, comprising the steps of:

kneading a thermoplastic resin blended with 20-60% by volume of soft magnetic material powder to provide a kneaded material;

injection-molding said kneaded material into a desired shape to provide a compact; and

5 cooling said injection-molded compact for solidification.